

## CLAIMS

What is claimed is:

1. A communication method for use by a first gateway device to enable communication between a first modem and a second modem, said first gateway device being  
5 capable of communicating with said first modem over a first communication line, said first gateway device being capable of communicating with a second gateway device over a packet network, said second gateway device being capable of communicating with said second modem over a second communication line, said method comprising the steps of:

receiving a call request for said first modem from said second gateway device  
10 over said packet network;

placing a call to said first modem over said first communication line in  
response to said receiving step;

detecting an answer tone transmitted from said first modem over said first  
communication line in response to said placing step;

15 detecting a phase reversal in said answer tone; and

transmitting a message indicative of said phase reversal to said second  
gateway device over said packet network.

2. The method of claim 1, wherein said message is indicative of an answer tone  
with phase reversal.

20 3. The method of claim 1, wherein said message is indicative of an amplitude-modulated answer tone with phase reversal.

4. The method of claim 1 further comprising the step of transmitting a message  
indicative of said answer tone to said second gateway device over said packet network prior  
to said step of transmitting said message indicative of said phase reversal.

5. The method of claim 4, wherein said message indicative of said phase reversal is a phase reversal message.

6. The method of claim 1, wherein said second gateway device includes an echo canceller, and the method further comprises the step of disabling said echo canceller in response to receiving said message indicative of said phase reversal from said first gateway device.

7. A first gateway device configured to enable communication between a first modem and a second modem, said first gateway device being capable of communicating with said first modem over a first communication line, said first gateway device being capable of communicating with a second gateway device over a packet network, said second gateway device being capable of communicating with said second modem over a second communication line, said first gateway device comprising:

a receiver configured to receive a call request for said first modem from said second gateway device over said packet network;

15 a call module configured to place a call to said first modem over said first in response to said receiver receiving said call request;

an answer tone detector configured to detect an answer tone transmitted from said first modem over said first communication line in response to said call;

20 a phase reversal detector configured to detect a phase reversal in said answer tone; and

a transmitter configured to transmit a message indicative of said phase reversal to said second gateway device over said packet network.

8. The first gateway device of claim 7, wherein said message is indicative of an answer tone with phase reversal.

9. The first gateway device of claim 7, wherein said message is indicative of an amplitude-modulated answer tone with phase reversal.

10. The first gateway device of claim 7, wherein said transmitter transmits a message indicative of said answer tone to said second gateway device over said packet  
5 network prior to transmitting said message indicative of said phase reversal.

11. The first gateway device of claim 10, wherein said message indicative of said phase reversal is a phase reversal message.

12. The first gateway device of claim 7, wherein said second gateway device includes an echo canceller, and said second gateway device disables said echo canceller in  
10 response to receiving said message indicative of said phase reversal from said first gateway device.

13. A communication method for use by a first gateway device to enable communication between a first modem and a second modem, said first gateway device being capable of communicating with said first modem over a first communication line, said first  
15 gateway device being capable of communicating with a second gateway device over a packet network, said second gateway device being capable of communicating with said second modem over a second communication line, said method comprising the steps of:

receiving a call from said first modem over said first communication line for said second modem from;

20 placing a call request to said second gateway device over said packet network in response to said receiving step;

receiving a message indicative of said phase reversal from said second gateway device over said packet network in response to said placing step; and

disabling an echo canceller of said first gateway device in response to said step of receiving said message indicative of said phase reversal.

14. The method of claim 13, wherein said message is indicative of an answer tone with phase reversal.

5 15. The method of claim 13, wherein said message is indicative of an amplitude-modulated answer tone with phase reversal.

16. The method of claim 13 further comprising the step of receiving a message indicative of said answer tone from said second gateway device over said packet network prior to said step of receiving said message indicative of said phase reversal.

10 17. The method of claim 16, wherein said message indicative of said phase reversal is a phase reversal message.

18. A first gateway device configured to enable communication between a first modem and a second modem, said first gateway device being capable of communicating with said first modem over a first communication line, said first gateway device being capable of  
15 communicating with a second gateway device over a packet network, said second gateway device being capable of communicating with said second modem over a second communication line, said first gateway device comprising:

a modem receiver configured to receive a call from said first modem over said first communication line for said second modem from;

20 a call module configured to place a call request to said second gateway device over said packet network in response to said call;

a network receiver configured to receive a message indicative of said phase reversal from said second gateway device over said packet network in response to said call request; and

an echo canceller, wherein said first gateway device disables said echo canceller in response to said message indicative of said phase reversal.

19. The first gateway device of claim 18, wherein said message is indicative of an answer tone with phase reversal.

5 20. The first gateway device of claim 18, wherein said message is indicative of an amplitude-modulated answer tone with phase reversal.

21. The first gateway device of claim 18, wherein said network receiver receives a message indicative of said answer tone from said second gateway device over said packet network prior to said network receiver receiving said message indicative of said phase reversal.

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22. The first gateway device of claim 21, wherein said message indicative of said phase reversal is a phase reversal message.